United States Coast Guard

DRYDOCK INSPECTION AND UNDERWATER SURVEY BOOK

Name of Vessel	
Official Number	**Class**
Date Completed	
Location	
Vessel Built in Compliance with SOLAS: 60 74 74/78 N/A	
Inspection Type	
Drydock Inspection	Underwater Survey in Lieu of Drydock (UWILD)
Internal Structural Examination (ISE)	Cargo Tank Internal Examination (CTIE)
Inspectors	
1. _____	**3.** _____
2. _____	**4.** _____

CG-840 DD
Rev. 1/01

Notes:

Use of Drydock Inspection Book:

This inspection book is intended to be used as a job aid by Coast Guard marine inspectors during drydock inspections, underwater surveys in lieu of drydock inspections, internal structural examinations, and cargo tank internal examinations of U.S. flagged vessels. The lists contained within this book are not intended to limit the inspection. Each marine inspector should determine the depth of inspection necessary. A checked box should be a running record of what has been inspected. It does not imply that the entire system has been inspected or that all or any items are in full compliance. This job aid does not constitute part of the official inspection record.

This document does not establish or change Federal laws or regulations. References given are only general guides. Refer to IMO publications, CFR's, NVIC's or any locally produced cite guides for specific regulatory references. Not all items in this book are applicable to all vessels.

NOTE: *Guidance on how to conduct drydock inspections*, *internal structural examinations, and cargo tank internal examinations of U.S. flagged vessels can be found in the Marine Safety Manual (MSM) Volume II, Chapter B3: Hull Examinations. Guidance on underwater surveys in lieu of drydock inspections can be found in NVIC 1-89. All MSM cites listed refer to MSM Volume II unless otherwise indicated.*

Pre-inspection Items:

- Review MSIS records.
  - MIPIP
  - MICOI

Post-inspection Items:

- Complete MSIS entries.
  - MIAR
  - MSDS
  - MIDR
  - VFLD
  - VFEI
- Initiate Report of Violation (ROV) if necessary.

Deficiency	MSIS Code	Req't. Issued / Date Completed

Deficiencies identified should be listed with MSIS codes. At completion of inspection/examination, any outstanding deficiencies shall be entered in MIDR or PSDR as appropriate. All deficiencies found (outstanding and completed) shall be entered in the Deficiency Summary. Worklist items, which serve only as memory joggers to complete inspection/examination (e.g., test emergency fire pump), should not be coded as deficiencies.

MSIS Codes for Deficiencies:

BS	Ballast	**DC**	Dry Cargo	**IC**	I/C Engine
BI	Bilge	**ES**	Electrical	**LS**	Lifesaving
BA	Boiler, Aux.	**FF**	Firefighting	**MI**	Miscellaneous
BM	Boiler, Main	**FL**	Fuel	**NS**	Navigation
CS	Cargo	**GS**	General Safety	**PP**	Propulsion
DM	Deck Machinery	**HA**	Habitation	**SS**	Steering
DL	Doc., Lics., Pmts.	**HU**	Hull		

Section 1: Administrative Items

IMO Applicability Dates:

Reference	Date
SOLAS 1960	26 MAY 65
SOLAS 1974	25 MAY 80
1978 Protocol to SOLAS 1974	01 MAY 81
1981 Amendments (II-1 & II-2)	01 SEP 84
1983 Amendments (III)	01 JUL 86
Various additional amendments to SOLAS	
MARPOL 73/78 Annex I	02 OCT 83
MARPOL 73/78 Annex II	06 APR 87
MARPOL 73/78 Annex III	01 JUL 92
MARPOL 73/78 Annex V	31 DEC 88
IBC Code	After 01 JUL 86
BCH Code	Prior to 01 JUL 86
COLREGS 1972	15 JUL 77
Various additional amendments to COLREGS	
Load Line 1966	21 JUL 68
STCW 1978	28 APR 84
1991 Amendments	01 DEC 92
1994 Amendments	01 JAN 96
1995 Amendments	01 FEB 97

Recommended US Vessel Deficiency Procedures:

Step	Action
1	Identify deficiency.
2	Inform vessel representative.
3	Record on the *Deficiency Summary Worksheet* (next page).
4	If deficiency is corrected prior to end of inspection, go to **Step 7.**
5	If deficiency is unable to be corrected prior to end of inspection, issue CG-835 in accordance with table below.
6	Enter CG-835 data in MIDR.
7	Enter deficiency data in MSDS.
8	Initiate Report of Violation (ROV) if necessary.

IF deficiency:	**THEN issue CG-835:**
Does NOT immediately impact crew/passenger safety, hull seaworthiness, or the environment, e.g., • Underwater survey video not immediately available	That provides a specific time for correcting deficiency, e.g., • "X" number of days
Allows vessel operations to be MODIFIED to meet less stringent requirements, e.g., • Deteriorated PV valves	That restricts operation of vessel to meet current vessel conditions, e.g., • Carriage restricted to Class E cargoes
DOES immediately impact crew/passenger safety, hull seaworthiness, or the environment, and cannot be modified to meet less stringent requirements, e.g., • Structural defect or damage	That requires the deficiency to be corrected prior to operating vessel ("NO SAIL" item), e.g., • Prior to carrying passengers

Vessel Information:

Last Drydocking Date	Next Drydocking Date
Date of Last Class Survey	
Outstanding conditions of class or non-conformities	

Vessel Description:

Container Vessel	Passenger Vessel
Vehicle Carrier	Research Vessel
Bulk Carrier	School Ship
Oil Tanker	Other
Chemical Tanker	_____

Certificates and Documents:

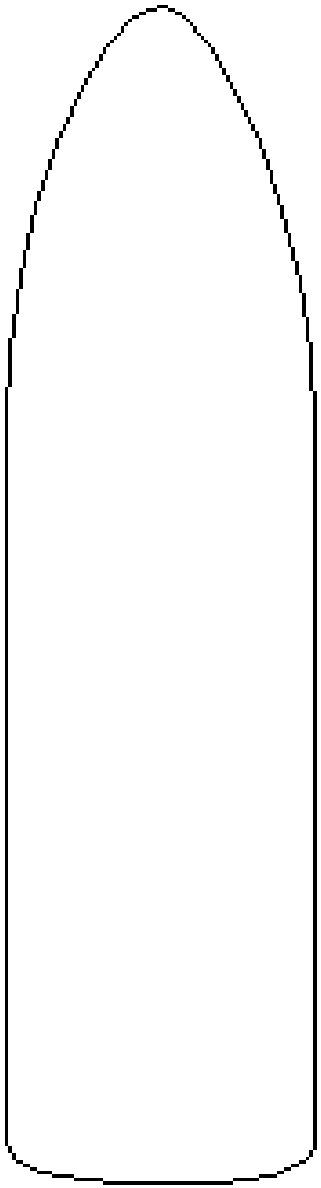
☐ Marine Chemist Certificate — MSM Ch. A5.H
- Marine Chemist No. _____
- Certificate No. _____
- Date issued _____

☐ Gauging Report — ABS Steel Rules 1/3
- Date issued _____

Notes: _____
_____
_____
_____
_____
_____

Section 4: Appendices

Vessel Layout:



- Double hull / bottom / sides
- Ballast tanks
- Chemical tank type: I II III
- Deck tanks
- Deckhouse location
- Deck cranes
- External / internal framing
- Layout of pumps – type
- Tank material construction
- Cargoes carried

☐ Hull and/or structural members gauged for material thickness (check appropriate choice)

46 CFR 31.10-21
ABS Steel Rules 1/3

Yes (attach gauging report)

- O Transverse belt of deck plating
- O Transverse belt of bottom and sideshell
- O Wind-and-water strakes
- O Keel plates
- O Bulkhead plating and stiffeners
- O Suspect areas
- O Other _____

No

☐ Vessel carefully examined for fractures and previous fracture repairs

MSM Ch. B3.B.6.a
NVIC 15-91, Change 1

☐ Vessel structurally reinforced in accordance with approved plans

☐ Fastenings

MSM Vol. IV Ch. 6.H
NVIC 3-68

- Rivets
- Welding
- Nails, screws, bolts

Internal Structural Examination:

☐ Internal structural members

46 CFR 31.10-21
46 CFR 71.50-3
46 CFR 91.40-3
MSM Ch. B.B.6
NVIC 7-68
NVIC 15-91, Change 1

- Bulkheads
- Decks
- Tank tops
- Longitudinals
- Floors
- Frames
- Intercostals
- Stiffeners
- Beams
- Connections
- Signs of electrolysis

Notes: _____

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☐ Additional personnel to assist

☐ Duration of underwater survey _____

☐ Plans or drawings

- Shell openings
- Docking plugs
- Bilge keels
- Welded seams and butts
- Appendages
- Anodes
- Rudder
- Propeller
- Reference points
- Watertight and oiltight bulkheads

☐ On-site survey

☐ Preparatory meeting

☐ Diving personnel / equipment

- NDT qualifications
- Repair qualifications
- Video / audio equipment
- Coast Guard and OSHA safety regulations

☐ Hull preparation

- Cleaning method _____
- Hull openings permanently marked

Notes: _____

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☐ Ballast tanks entered

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Overall Condition of Coatings:

Poor	Good

N/A

☐ Forward peak

☐ Aft peak

☐ Reduced scantlings — MSM Ch. B3.B.6.c

Cargo Tank Internal Examination:

☐ Internal structural members — 46 CFR 31.10-21; 46 CFR 91.40-3; MSM Ch. B3.B.6; NVIC 7-68; NVIC 15-91, Change 1

- Bulkheads
- Decks
- Tank tops
- Longitudinals
- Floors
- Frames
- Intercostals
- Stiffeners
- Beams
- Connections

☐ Vessel carefully examined for fractures and previous fracture repairs — MSM Ch. B3.B.6.a; NVIC 15-91, Change 1

Notes: _____

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☐ Sea valves — 46 CFR 42.09-25, 46 CFR 56.50-95

- Fitted where required
- Opened for examination
- Body
- Guides
- Threads
- Seat
- Stems
- Discs
- Plug cocks
- Holding down bolts
- Closure tested (local and/or remote)

☐ Bilge injection valves — 46 CFR 42.09-25, 46 CFR 56.50-95

- Non-return operation
- Operated
- Inspected

☐ Non-metallic expansion joint — 46 CFR 56.35-10, 46 CFR 61.15-12

- Year installed _____ (10 years maximum)
- External exam
- Internal exam
- New non-metallic expansion joint installed

Ground Tackle:

☐ Proper ground tackle — 46 CFR 32.15-15, 46 CFR 77.07, 46 CFR 96.07-5

- Anchor cables ranged
  - Yes
  - No
- Cable shackles and pins
- Anchors
- Hawse pipes and covers
- Chain pipes and covers
- Chain lockers
- Cables properly marked

Notes: _____

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☐ Sideports

- Dogs or other securing appliances
- Frames
- Doors
- Hinges
- Gaskets
- Operating equipment

☐ Ash and rubbish chutes

- Watertight cover and means of securing
- Non-return valve

☐ Self-bailers and cockpit freeing ports

- Check valves
- Positive closing valve

☐ Compartment or inner bottom drains (drydocking drains)

- Secure plugs

☐ Scuppers, soil lines, tank overflows

- Valves

☐ Draft marks and load lines — MSM Ch. B3.B.6.c

- Proper locations
- Legibly inscribed
- Proper spacing and size
- Load line markings verified

Notes: _____

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